

# Minnesota Student Survey

## 1992-2013 Trends



Minnesota Department of Education

Minnesota Department of Health

Minnesota Department of Human Services

Minnesota Department of Public Safety

## **In Appreciation**

We are indebted to the teachers, survey coordinators, and superintendents across the state who agreed to support the administration of the Minnesota Student Survey in 2013. We especially thank the students who shared information on their attitudes, beliefs and behaviors with us through the survey.

We urge you to share these findings with your communities—with students and families, with your school team of educators and staff, administrators and school board members, public health and social services staff, law enforcement and others who work with young people to improve the school and community environments in which they learn, grow and develop.

This information is available in alternative formats to individuals with disabilities by calling (651) 582-8452. TTY users can call through Minnesota Relay at (800) 627-3529. For Speech-to-Speech, call (887) 627-3848. For additional assistance with legal rights and protections for equal access to human services programs, contact your agency's Americans with Disabilities Act (ADA) coordinator.

## Table of Contents

Executive Summary .....	1
Introduction .....	3
Relationships .....	7
Perceptions of School Safety .....	9
Anti-Social Behavior.....	10
Physical Health .....	11
Nutrition .....	12
Sexual Abuse.....	13
Alcohol, Tobacco & Other Drugs.....	14
Perceptions of harm from alcohol, tobacco, and other drugs.....	17
Sexual Behavior.....	18
Technical Notes .....	20
Acknowledgments.....	22

## Executive Summary

The Minnesota Student Survey is a statewide school-based survey conducted every three years by an interagency team consisting of four state agencies (Education, Health, Human Services and Public Safety). Students respond to questions about school climate, bullying, out-of-school activities, healthy eating, emotional health, substance use, connections with school and family, and many other topics. Their responses provide a snapshot in time of students' attitudes and behaviors, but also provide an opportunity to monitor trends over time.

This report highlights trends for ninth grade students between 1992 and 2013. It includes data on indicators such as relationships, school safety, physical health and nutrition, adverse experiences and risk behaviors. From 1992 through 2010, students in grades 6, 9 and 12 were surveyed. Beginning in 2013, these grade levels shifted to include 5<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, and 11<sup>th</sup> graders. For this reason, the current trend report only includes students in grade nine. Future years will return to highlighting trends for additional grades once that data is available.

A summary of the trend data related to each of the reported categories is provided below.

### *Relationships*

Ninth grade students reported steady increases in their ability to talk to their mother and father about problems between 1992 and 2013. The increase was sharpest in relation to female's perceptions of talking to their father. In addition, a high percentage of ninth graders have consistently felt that their parents care about them very much or quite a bit. In relation to other adult relatives and teachers, there has been an overall increase in perceptions of feeling cared about, despite a slight drop between 2010 and 2013. Females have been more likely than males to feel that their friends care about them. However, males have reported a steady increase since 2004, and the gap has narrowed.

### *Perceptions of Safety*

More than nine out of 10 ninth grade students have consistently felt safe at school, going to and from school, and in their neighborhood since these questions were included on the MSS in 1995 (and 2007 for neighborhood). The gaps between males and females are small for every year in which data was collected. While this report only depicts differences in gender, it is important to recognize that disparities on safety questions persist when the data is disaggregated by race/ethnicity, free and reduced price lunch and sexual orientation.

### *Anti-Social Behavior*

Steady declines occurred in anti-social behaviors for ninth grade students over time. The percentage of students who reported running away from home in the last year increased between 1992 and 2004, but dropped to its lowest rate of about seven percent in 2013. In addition, remarkable decreases occurred for both males and females in their reports of hitting or beating up another person and taking something from a store without paying. These percentages reached record lows of about 10 percent in 2013.

### *Physical Health and Nutrition*

Key indicators of physical health have remained steady over time. Nearly identical percentages of male and female ninth graders reported being told that they have asthma for each of the survey years. Similarly, percentages of overweight or obese students remained steady despite a large gap between males and females in each year.

Consumption of milk has decreased slightly over time. However, pop or soda consumption has decreased at dramatic rates from 2001 to 2013. In contrast, consumption of sports drinks increased between 2001 and 2007 but has remained steady since then.

### *Sexual Abuse*

Ninth grade students reported the all-time lowest rates of being touched or forced to touch sexually against their wishes by people inside or outside of their family. The sharpest decrease occurred for female students, who reported being touched or forced to touch sexually by an adult or other person outside of their family. This percentage dropped from about 13 percent in 1992 to less than six percent in 2013.

### *Alcohol, Tobacco and Other Drugs / Perceptions of Harm*

Reported alcohol usage by ninth grade students has dropped dramatically since 1992. Males and females followed a similar pattern over time, but females consistently reported slightly higher usage of alcohol than males.

Cigarette usage showed similar drops between 2001 and 2013, with an all-time low of about seven percent reporting usage in the last month for 2013. Usage rates of cigars and smokeless tobacco have decreased slightly over time as well. Reports of marijuana usage have decreased greatly since the peak in 1998, but have appeared to level off since about 2007.

While usage of alcohol, cigarettes and marijuana has decreased in recent years, perceptions of risk in using these substances have also decreased. In other words, fewer students in 2013 than in 2007 or 2010 perceived excessive use of alcohol, cigarettes or marijuana to put people at great risk of harm. A decreased perception of risk runs counter to decreased rates of usage observed for tobacco and alcohol use. If perceptions of harm continue to decrease, rates of usage may start to increase over time.

### *Sexual Behavior*

The sexual behavior questions changed slightly in 2013, which may affect the results. For this reason, the drop in percentage of ninth grade students who reported having had sexual intercourse and the drop in those who reported using a condom during last sexual intercourse should be cautiously interpreted. Similarly, there was an increase in the percentage of ninth graders who reported talking with every partner about preventing pregnancy or protecting from sexually transmitted illnesses or HIV/AIDS. Again, these responses may have been affected by the change in question wording.

## **Introduction**

### **About the Minnesota Student Survey**

The Minnesota Student Survey (MSS) is a valuable source of information about issues vital to the health, safety, and academic success of young people. It is used by school districts, county and state agencies, community organizations, students and parents to understand the world of young people and develop effective ways of supporting students and families. The survey asks students about their activities, opinions, behaviors and experiences. It includes questions on school climate, bullying, out-of-school activities, healthy eating, emotional health, substance use, connections with school and family, and many other topics. High school students are also asked questions about sexual activity.

The survey is administered every three years to students in selected grades in regular public schools, charter schools and tribal schools. It is also offered to students in alternative learning centers and juvenile correctional facilities, although the results for the alternative learning centers and correctional facilities are reported separately. In 2013, nearly 165,000 public school students participated in the survey.

Survey results are used in many ways by various groups of people. Because it involves so many students, the MSS can provide local results to individual school districts, counties and regions, as well as for the state as a whole. The MSS is the primary source of comprehensive data on youth at the county and local level in Minnesota, and is the only consistent source of statewide data on the health and well-being of youth from smaller population groups, such as race or ethnic groups. School districts, local public health agencies, and community groups use local data to hold community forums and stimulate discussion about the needs of youth, plan programs, and obtain grant funding. State agencies use the results to monitor trends in health and risk behaviors, to assess the extent of health disparities among population groups, design programs, measure progress, obtain federal and state funding and assist local communities and schools.

### **Survey Administration**

The MSS is a collaboration between local schools and four state agencies: the Minnesota Departments of Education, Health, Human Services and Public Safety. The state agencies develop the survey content, monitor data quality, analyze data and report results. Local school districts and correctional facilities administer the survey to their students.

The survey is anonymous and voluntary for school districts and students. School districts have the option of not participating in the survey. Parents can choose not to have their children participate. Students themselves can decide not to take the survey. Once they begin the survey, they can decide to skip any question or stop entirely at any point. No names or identifying code numbers at the student level are used on the survey materials. Answers cannot be traced to an individual student.

### **Participation Levels**

The MSS is designed like a census, in that all school districts are invited to participate. Once a school district agrees, all students in the selected grades are then invited to participate. In 2013,

84 percent of Minnesota's geographically-based, operating school districts participated, down from 91 percent in 2007 and 88 percent in 2010.

Student participation is of course affected by participation decisions of school districts and is also affected by illness, truancy, dropping out, schedule conflicts and parent or student decisions not to take the survey. In 2013, 66 percent of all fifth grade students in regular public schools participated, 71 percent of eighth grade students, 69 percent of ninth grade students and 62 percent of eleventh grade students.

## **Standard Tables and Special Reports**

Standard tables showing student responses to all survey questions have been prepared for school districts, counties, regions, and the state as a whole. There are separate statewide tables for regular public schools, alternative learning centers, and juvenile correctional facilities. Each state agency's website includes a combination of these standard tables and special reports.

[View statewide and district tables, as well as special reports, on the Minnesota Department of Education website.](http://education.state.mn.us/MDE/StuSuc/SafeSch/MNStudentSurvey/) (<http://education.state.mn.us/MDE/StuSuc/SafeSch/MNStudentSurvey/>)

[View statewide, county, and regional tables, as well as special reports, on the Minnesota Department of Health website.](http://www.health.state.mn.us/divs/chs/mss/) (<http://www.health.state.mn.us/divs/chs/mss/>)

[View special reports on the Minnesota Department of Human Services website.](http://www.dhs.state.mn.us/mss/) (<http://www.dhs.state.mn.us/mss/>)

[View special reports on the Minnesota Department of Public Safety website.](https://dps.mn.gov/divisions/ojp/statistical-analysis-center/Pages/youth-jvenile-justice-reports.aspx)

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## **Changes to the Minnesota Student Survey in 2013**

In 2013, the MSS underwent the largest overhaul in its history. There were three major kinds of changes in the survey, and all three have an effect on the reporting of trend results.

1. Grades surveyed: Prior to 2013, the survey was offered to students in grades 6, 9 and 12. For several reasons, the interagency team responsible for the survey decided to move the survey up one year so that it would cover grades 5, 8 and 11. In addition, grade 9 was included to retain some possibility of monitoring trends. The new grade configuration means that results in this trend report will be available only for 9th grade students.
2. Mode of administration: In 2013, for the first time, schools could choose to administer the survey by computer or by using the traditional paper-and-pencil survey. Each participating school had to choose one method or the other. Sixty-five percent of students taking the survey used the paper-and-pencil method, and 35 percent used the online method. Questions were identical for both methods. Researchers find that the mode of administration (such as paper-and-pencil vs. online) may sometimes influence survey results in subtle ways. A student may

feel that one method offers more privacy, or is faster, or is just more comfortable. An extensive analysis was conducted by Dr. Eunkyung Park of the Minnesota Department of Human Services. She found that, with some exceptions, the mode of administration did not have serious effects on the survey results and that the combined results (paper and online) for 2013 could be used in trend analysis.

[View “Web vs. paper administration of a school-based survey: Mode effect analysis for the 2013 Minnesota Student Survey” by Dr. Eunkyung Park on the Minnesota Department of Human Services website.](http://www.dhs.state.mn.us/mss)

(<http://www.dhs.state.mn.us/mss>)

3. Content of Questions: In response to interest in emerging issues, many new questions were added to the 2013 survey. New or greatly expanded topic areas include experiences of homelessness and economic hardship, eating and sleeping habits, distracted driving, indoor tanning, educational engagement, bullying and relationship violence. Questions on positive youth development were also added. To accommodate these important additions, other questions were dropped. In addition, many questions were reworded or changed extensively so they would have stronger validity or could be compared with questions on prominent national surveys.

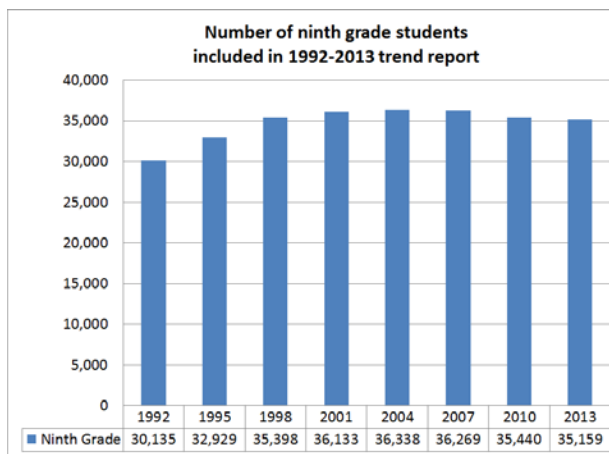
### **Impact of Changes on Trend Reporting**

As a result of this large-scale overhaul, the MSS has strengthened its ability to cover current conditions but has weakened its ability to follow trends over time, at least for the time being. The combined impact of all these changes is that this trend report for 1992-2013 is smaller and more limited than previous reports. Because of the change in grades surveyed, trends can be reported only for 9th grade students. Changes to the wording of some questions and the removal of other questions reduce the pool of questions that can be tracked over many years. While potential differences due to mode of administration (paper vs. online) appear not to be serious, some caution should be taken when interpreting very small differences between 2013 and previous years. Despite these limitations and cautions, the trends presented here offer useful information on developments in the adolescent world over the past 10 to 20 years.

### **Methods for this Trend Report**

To compare state results over the years, this report includes data only from those school districts that have participated in each of the last eight survey administrations – from 1992 to 2013—at the 9th grade level. Using only these districts helps to ensure that trends from year to year are not due simply to changes in the set of schools that participated in the survey. While some surveys are lost through this procedure, the school districts that have participated consistently since 1992 represent about three-fourths (73.5 percent) of all ninth graders who have taken the survey in that time span. The following table shows the number of ninth graders included for each of the years in this trend report.





This trend report reflects the survey responses of students in regular public schools, charter schools, and tribal schools. Youth attending alternative learning centers and youth living in juvenile justice facilities are not included in the trends report.

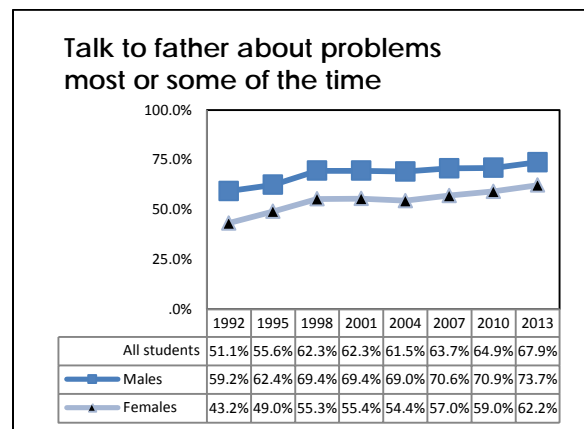
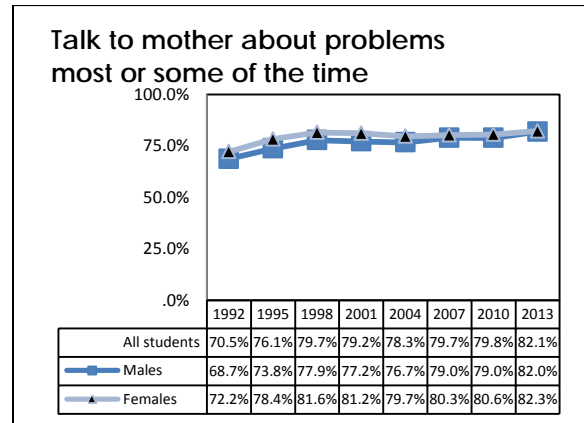
*The technical aspects of preparing the trend report are discussed in more detail in the Technical Notes at the end of the report.*

## Relationships

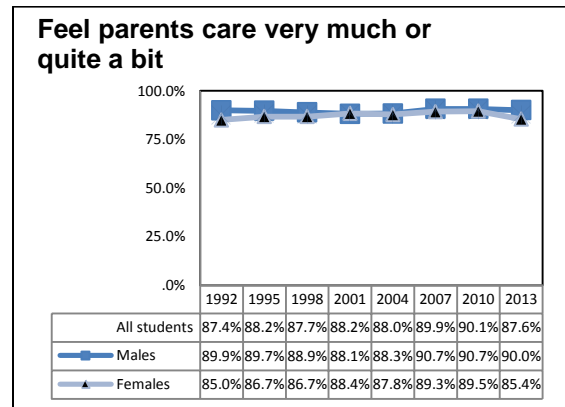
From 1992 to 2013, ninth grade students reported steady increases in communication with their mothers and fathers. However, males and females consistently reported talking to their mother more than their father about problems. In 2013, 82 percent of males said they talked to their mother compared to 73.7 percent who said they talked to their father about problems (a difference of 8.3 percentage points). The difference was even greater for females, where 82.3 percent reported talking to their mother compared to only 62.2 percent with their father (a difference of 20.1 percentage points).

The difference between males who perceived talking to their mother and those who perceived talking to their father has remained relatively consistent over the years at about an 8 to 9 percentage point gap. However, the gap between females who said they talked to their mother and those who said they talked to their father has decreased from 29 percentage points in 1992 to 20 percentage points in 2013.

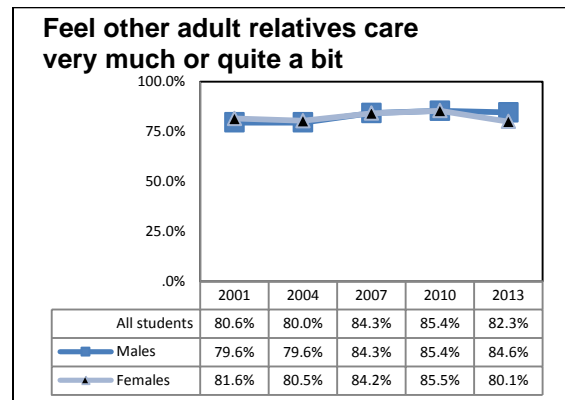
The trend continues to show a clear distinction between males and females in their perceptions of talking to their father about problems, despite a slight narrowing of the gap. In 2013, 11.5 percentage points separated males and females, with more male students than female students reporting that they talked to their father. This stands in contrast to a near identical percentage of male and female students who reported talking to their mother in 2013.



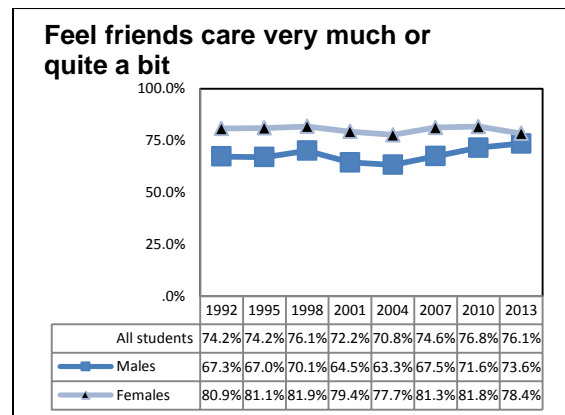
The percentage of ninth grade students who felt that their parents cared very much or quite a bit has remained higher than 85 percent since 1992. After several years of a gradual incline for girls, there was a decrease of 4.1 percentage points from 2010 to 2013. Boys' results remained relatively similar during the same time period.



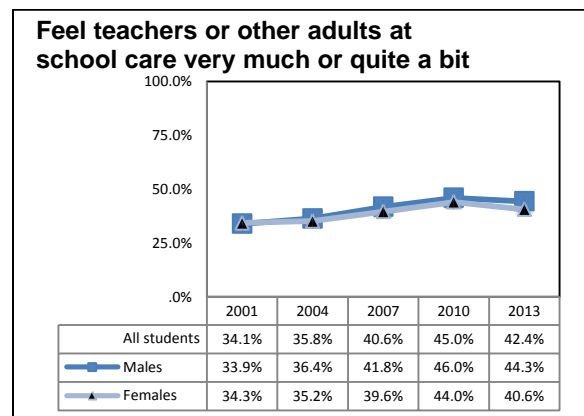
There was a drop in the percentage of female students who felt other adult relatives cared very much or quite a bit. It fell from 85.5 percent of females in 2010 to 80.1 percent in 2013. The percentage of male students was similar to that of females in 2010, but only dropped to 84.6 percent in 2013.



Compared with parents and other adult relatives, fewer students reported feeling that friends cared about them very much or quite a bit. A sizeable gap has persisted since 1992 between males and females with the largest gap occurring in 2001 (64.5 percent of males and 79.4 percent of females). Notably, the gap in 2013 is the smallest recorded (73.6 percent of males and 78.4 percent of females). The percentage of males who feel friends care has increased since 1992 by 6.3 percentage points, while the percentage of females has dropped by 2.5 percentage points.



Less than half of the students felt that their teachers cared very much or quite a bit. While these percentages increased steadily from 2001 to 2010, they dropped slightly for both males and females in 2013. Regardless, students showed an overall increase on their perceptions that teachers or other school adults care between 2001 and 2013.

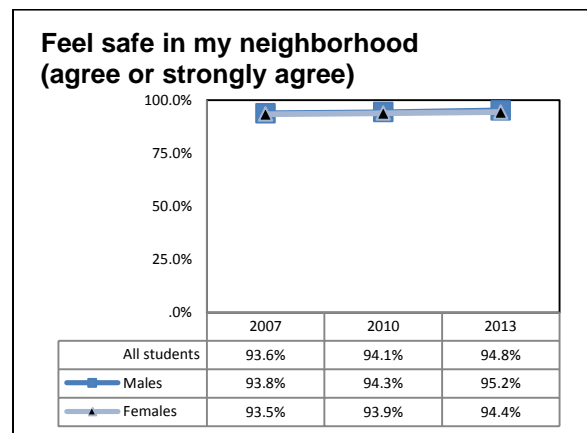
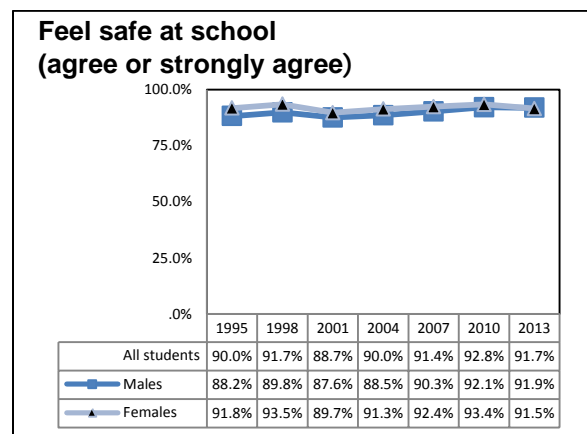
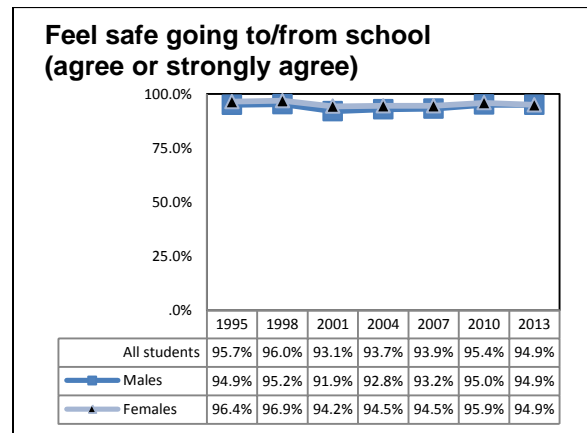


## Perceptions of Safety

Ninth grade students have consistently reported feeling safe going to and from school. In 1995, about 95 percent of them strongly agreed or agreed that they felt safe going to and from school. This percentage dipped to about 93 percent in 2001-2007 and returned to 95 percent in 2010 and 2013.

Students' feelings of safety in their neighborhoods have almost mirrored their feelings of safety going to and from school. A high percentage of students (93.6 percent) strongly agreed or agreed that they felt safe in 2007. This percentage has gradually increased each year to nearly 95 percent in 2013.

A slightly lower percentage of students said they felt safe at school compared with their neighborhood. This percentage has fluctuated between 88.7 percent and 92.8 percent over time. In 1995, there was a 3.6 percentage point gap between males and females with more females reporting feelings of safety at school. However, this gap has diminished over time. 2013 was the first time that the percentage of males was higher than the percentage of females feeling safe, although by less than half a percentage point.



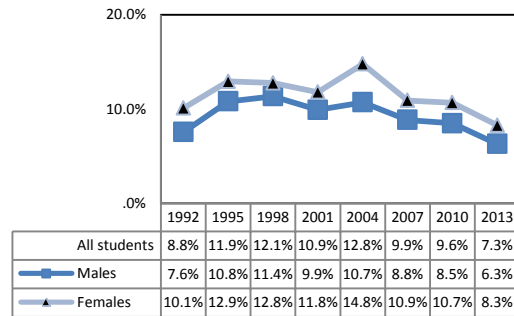
## Anti-Social Behavior

Between 1992 and 2004, the percentage of ninth grade students who ran away from home one or more times in 12 months increased from 8.8 percent to 12.8 percent. Since then the percentage has declined to its lowest on record at 7.3 percent. However, the gap between males and females persists with more females reporting that they ran away from home than males.

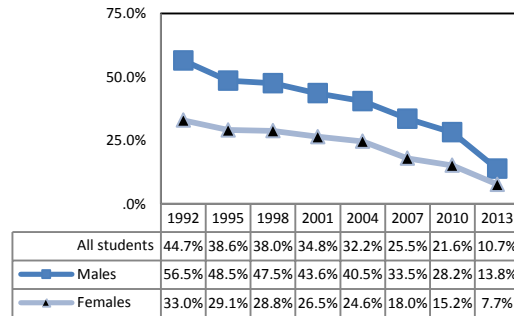
The percentage of students who reported hitting or beating up another person during the past 12 months has dropped dramatically over time from 1992 to 2013. The largest drop occurred between 2010 and 2013 when the rate was cut in half from 21.6 percent to 10.7 percent. While the gap between males and females remains persistent, the downward trend is promising.

A similar trend is observed in the percentage of students who reported taking something from a store without paying during the last 12 months. There was a gradual decline from 1995 to 2010, followed by a relatively sharp decrease in 2013 to 10.9 percent. Furthermore, the gap between males and females has decreased notably over time.

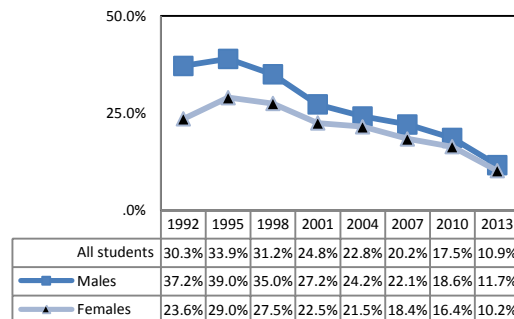
**Ran away from home during past 12 months**



**Hit or beat up another person during past 12 months**



**Took something from store without paying during last 12 months**

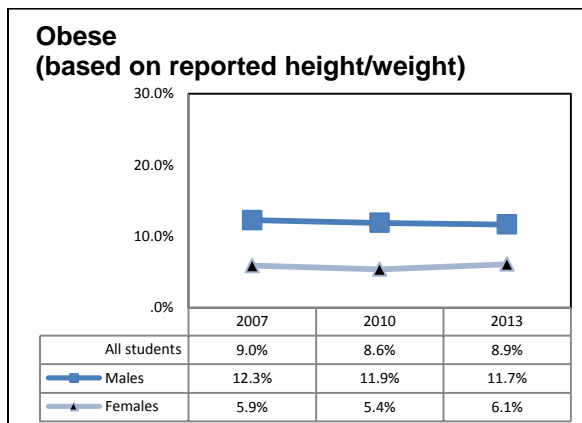
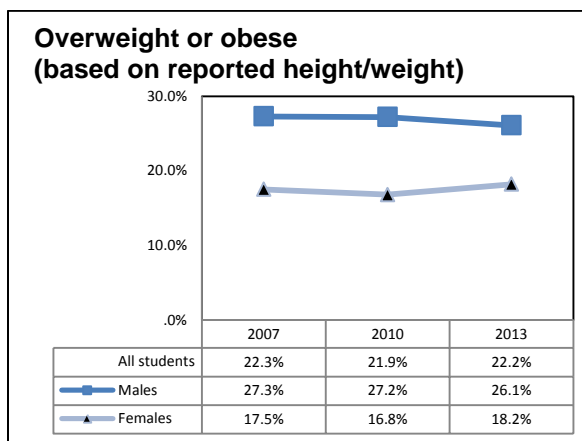
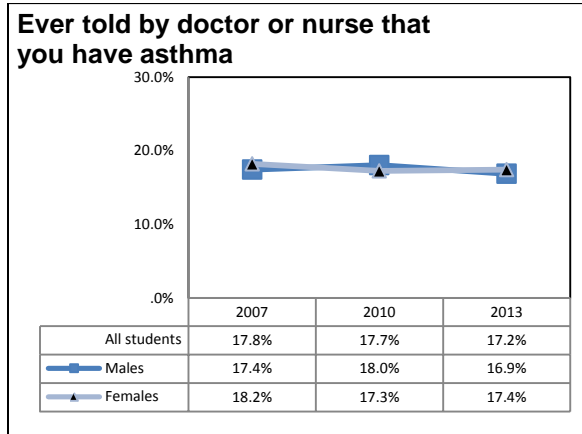


## Physical Health

Asthma is one of the leading causes of student absenteeism in the United States. The rate of ninth grade students who reported ever being told by a doctor or nurse that they have asthma has remained consistent at about 17 percent to 18 percent between 2007 and 2013. The gap between males and females was virtually non-existent.

Obesity rates were calculated based on students' reported height and weight. These have remained similar since 2007 at around 9 percent. However, males continue to be more than twice as likely than females to report a height and weight that fall in this category.

In 2013, about 22 percent of students reported heights and weights that are considered overweight or obese. This percentage has remained steady since 2007. Again, the male rates are significantly higher than female rates with about an eight percentage point difference between them in 2013.



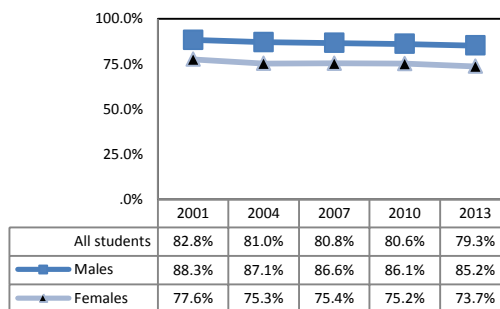
## Nutrition

Ninth grade students' reported consumption of milk gradually decreased between 2001 and 2013. This is in line with national statistics that report declines since the 1970s in the amount consumed. The gap between males and females has persisted over time with more males (85.2 percent) saying they drank one or more glasses the previous day than females (73.7 percent).

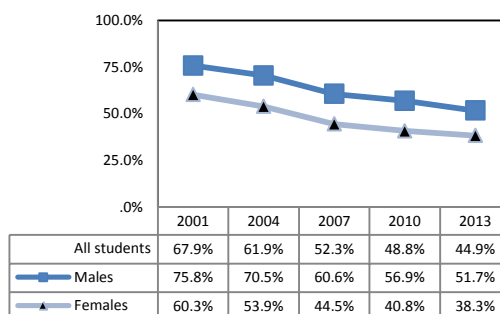
The percentage of students who reported drinking one or more glasses of pop or soda the previous day fell dramatically from 67.9 percent in 2001 to 44.9 percent in 2013. Males continued to drink more pop or soda than females in 2013, with 13 percentage points between them.

Consumption of sports drinks rose from 23.2 percent in 2001 to 38.4 percent in 2007 and has gradually decreased since then. However, the 2013 rate is still higher than the 2001 rate by more than 10 percentage points. In addition, there is a significant difference between males and females, with more males drinking sports drinks than females. This gap has decreased gradually during each reporting period.

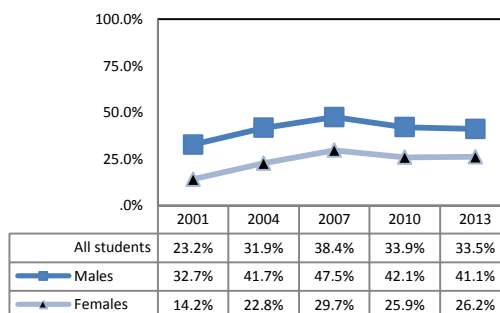
### Drank one or more glasses of milk yesterday



### Drank one or more glasses of pop or soda yesterday



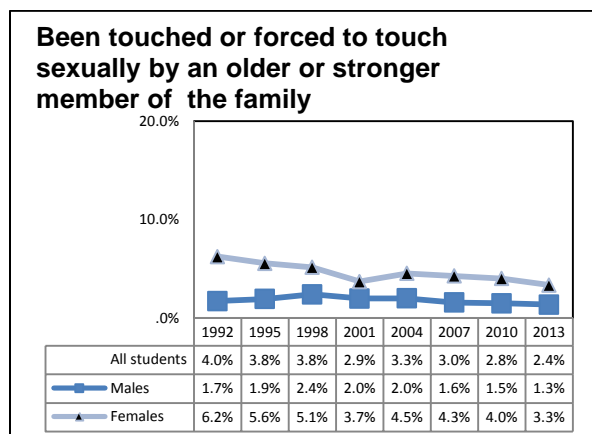
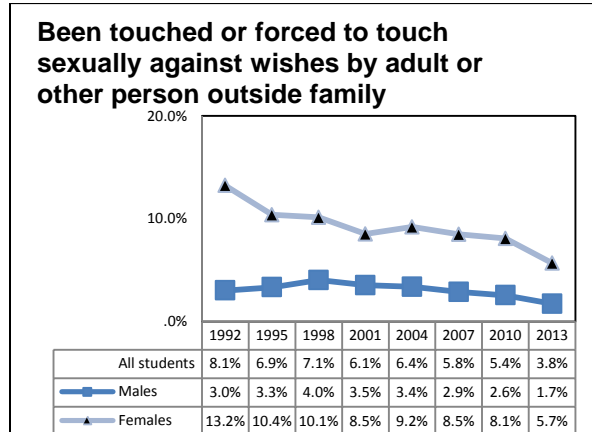
### Drank one or more glasses of sports drinks yesterday



## Sexual Abuse

The percentage of ninth grade students who reported ever being touched or forced to touch sexually against their wishes by an adult or other person outside their family has dropped consistently over time. The overall rate in 2013 (3.8 percent) is less than half the rate in 1992 (8.1 percent). Females have always reported higher incidents of unwanted touching than males, but this gap has closed with only four percentage points separating them in 2013 compared to more than 10 percentage points in 1992.

Fewer students reported being touched or forced to touch sexually by a member of the family than by people outside of the family. The overall percentage has dropped from four percent in 1992 to 2.4 percent in 2013. In particular, female reports of abuse by a family member have decreased by almost half between these time periods.



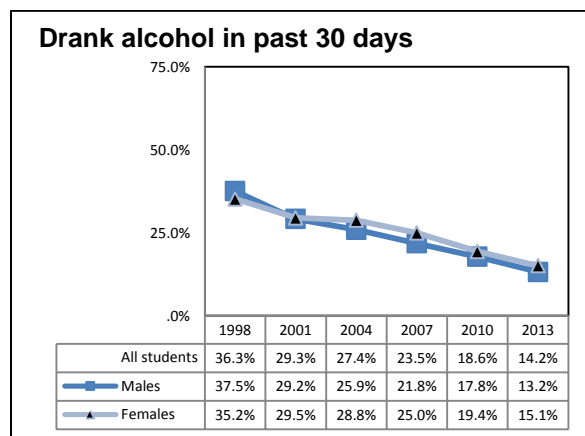
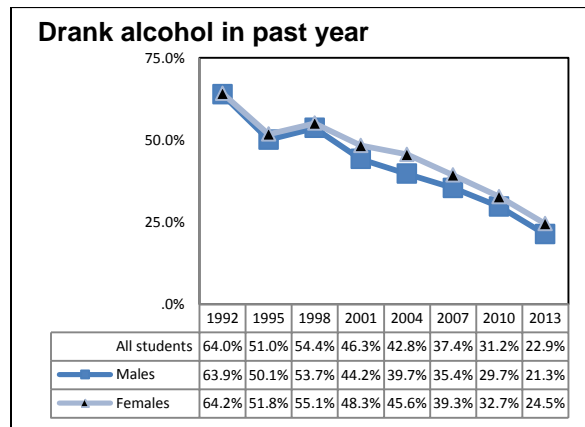


## Alcohol, Tobacco and Other Drugs

### Alcohol use

The percentage of ninth grade students who reported having alcoholic beverages at least once in the past year has declined greatly over time. In 1992, 64 percent of students reported alcohol use in the last year, compared with 22.9 percent in 2013. There was a drop of about eight percentage points between 2010 and 2013 alone. Students' consumption of alcohol during the last 30 days similarly decreased over time from 36.3 percent in 1998 to 14.2 percent in 2013.

Males and females have followed a similar downward trend in rates of alcohol consumption. However, the data consistently show a slightly higher percentage of females than males drinking alcohol in the past year and past 30 days.

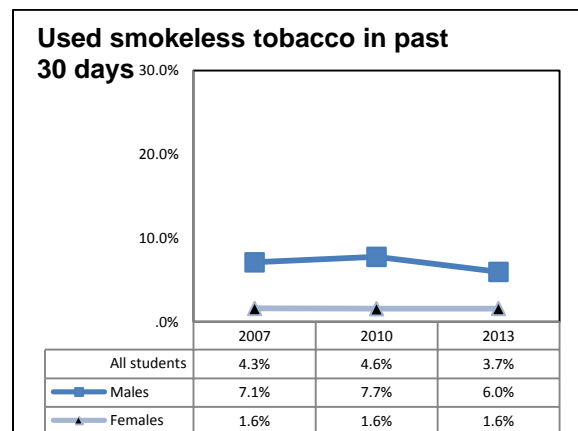
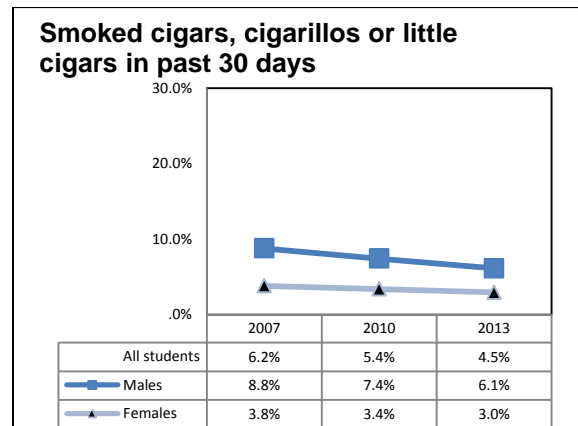
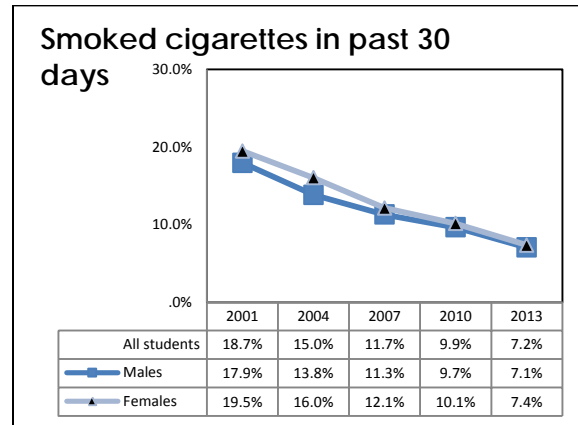


## Tobacco use

Cigarette smoking has declined steadily between 2001 and 2013. Ninth grade students in 2013 were less than half as likely to smoke a cigarette in the past 30 days compared to ninth graders in 2001. In 2013, only 7.2 percent reported having smoked cigarettes in the last 30 days, compared to 18.7 percent in 2001. This is the lowest rate recorded in the history of the Minnesota Student Survey.

The percentage of students reporting that they smoked cigars, cigarillos or little cigars at least once in the past month has declined from 6.2 percent in 2007 to 4.5 percent in 2013. In addition, smokeless tobacco usage has decreased for males. A low percentage of females (1.6 percent) reported using smokeless tobacco in each of the years surveyed.

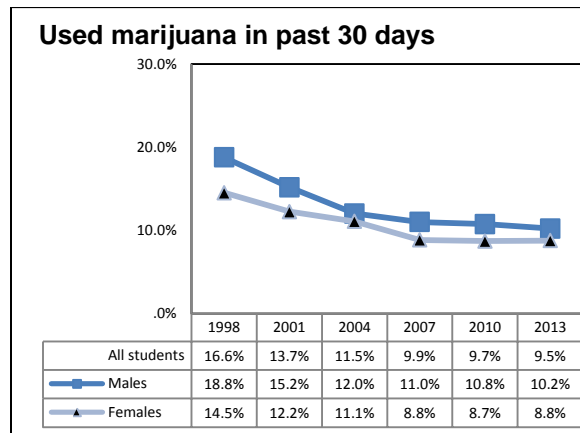
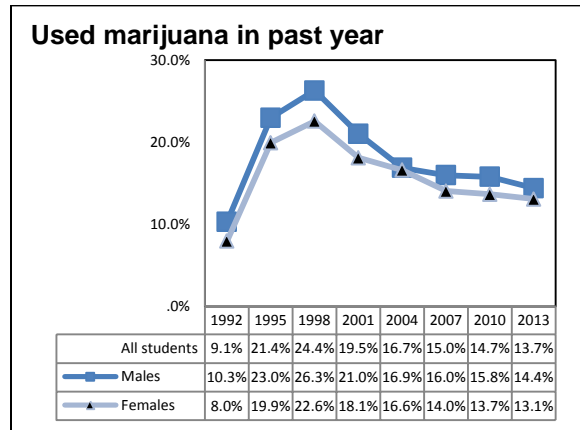
Among ninth grade male students in 2013, there was not much difference between the prevalence of smoking cigarettes in the past 30 days compared with the prevalence of using other tobacco products in the same time period.



## Marijuana use

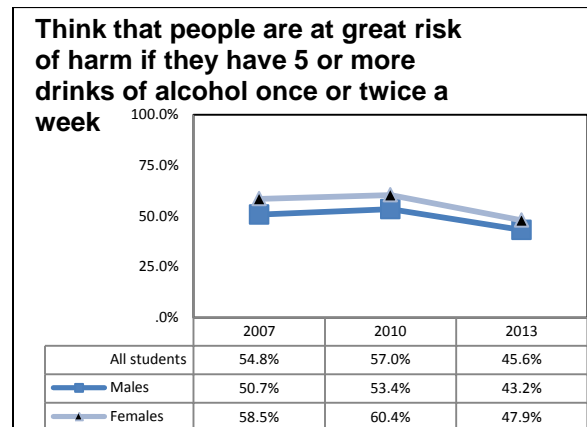
Marijuana usage increased sharply between 1992 and 1998. This was followed by many years of a gradual decline. In 2013, 13.7 percent of ninth graders reported having used marijuana in the past year. This is a decrease of almost half since the peak in 1998, yet almost four percentage points higher than the lowest rate of 9.1 percent recorded in 1992. Males have consistently reported slightly higher usage of marijuana than females.

Data on marijuana usage in the past 30 days follow a similar downward trend. There has been a drop of almost half since 1998. In comparing usage in the past year with usage in the past month, about seven out of every ten students who have used marijuana in the past year also used in the last month.

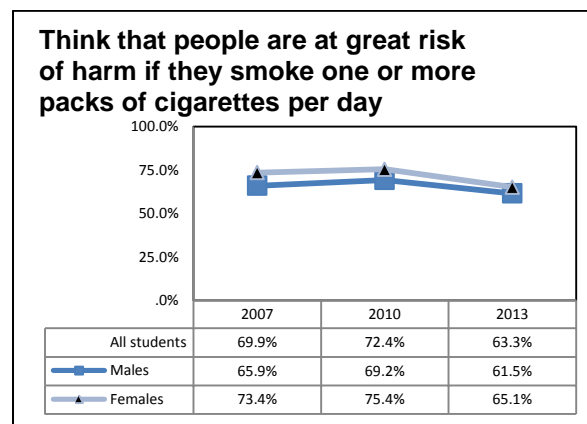


## Perceptions of harm from alcohol, tobacco, and other drugs

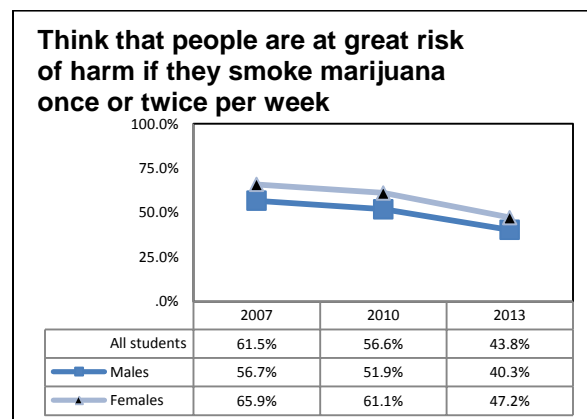
Ninth grade students' perceptions of harm from drinking five or more alcoholic drinks (binge drinking) once or twice per week have fluctuated since 2007. A greater percentage of students in 2010 than 2007 perceived people who engage in this behavior to be at great risk of harming themselves. However, there was a drop of about 11 percentage points from 2010 to 2013. In general, more females than males see binge drinking once or twice per week as being a great risk.



A similar trend occurred in relation to smoking one or more packs of cigarettes per day. Again, there was an increased perception of great risk between 2007 and 2010, followed by a drop in 2013. While females were more likely than males to view excessive cigarette smoking as harmful, the gap narrowed in 2013. In other words, there was a larger decline in females' perceptions of risk than males' during this time period.



Trend lines show a continuous decrease in perceptions that smoking marijuana once or twice per week puts people at great risk for harm. In 2007, 61.5 percent of students believed this behavior to be a great risk compared with only 43.8 percent of students in 2013. While this perception dropped almost five percentage points between 2007 and 2010, there was a more dramatic drop of almost 13 percentage points between 2010 and 2013.

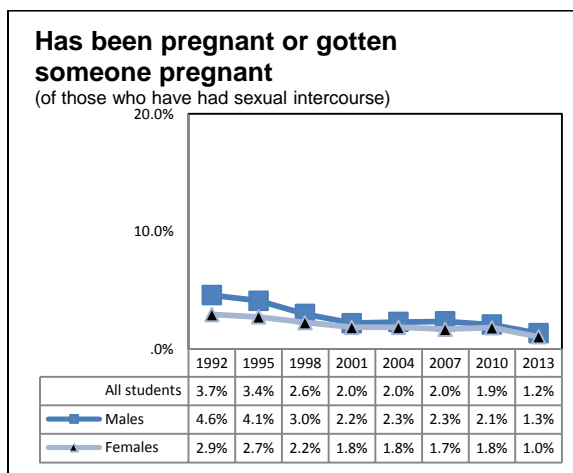
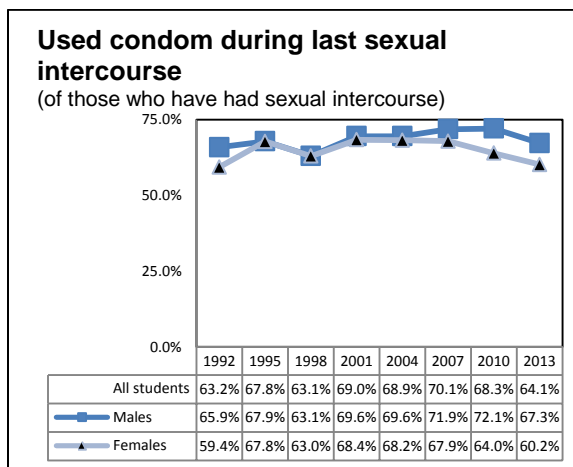
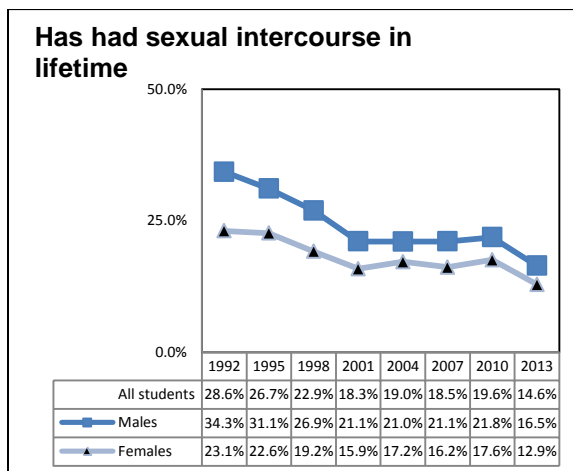


## Sexual Behavior

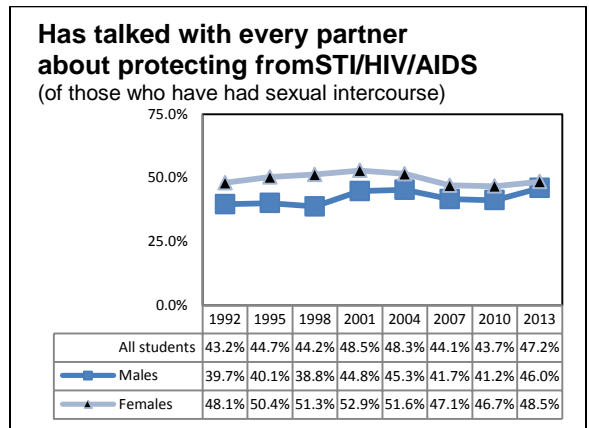
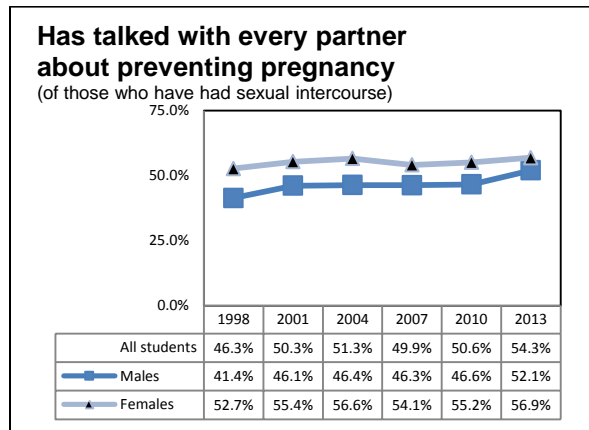
The response options on the sexual intercourse question changed slightly in 2013, indicated by the exclamation point on the graph. From 1992 until 2010, students could respond in one of the following ways: no; yes, once or twice; or yes, three or more times. In 2013, students' only options were yes or no. It could be argued that the results would not be affected by this shift since the number of yes responses and no responses could still be calculated for each year. However, it is possible that responses were affected. For this reason, the five percentage point drop between 2010 and 2013 should be interpreted cautiously, especially since this is the lowest rate ever recorded. Data from future years will provide more insight into the validity of this comparison.

Since the questions related to condom use, pregnancy, and talking with partners depend on the number of students who responded yes to the sexual intercourse question, these results also may have been affected by the change in response options. Thus, the exclamation point on the respective graphs indicates the point in time where the question change was made.

Less than two-thirds of ninth grade students who reported having sexual intercourse said they or their partner used a condom during their last sexual intercourse. The percentage was higher for males than females. Despite the lower rates of condom use, the percentage of students reporting that they have been pregnant or gotten someone pregnant reached its lowest point in 2013 at 1.2 percent overall. Males dropped from 4.6 percent in 1992 to 1.3 percent in 2013, while females dropped from 2.9 percent to one percent during the same time frame.



If the assumption is made that the 2013 data is comparable to previous years, the rates at which ninth graders talked to every partner about preventing pregnancy or preventing sexually transmitted infections (STI) or HIV/AIDS increased since they were first included on the survey. More than half (54.3 percent) of the students who reported having had sexual intercourse in their lifetime said that they have talked to every partner about preventing pregnancy. Slightly less than half (47.2 percent) said they had talked with every partner about protection from STI or HIV/AIDS.



## Technical Notes

### Defining the Sample of School Districts for Trend Analysis

Not all school districts participate in the Minnesota Student Survey each time it is offered. In order to compare state results across years accurately, this report analyzes data only from school districts that participated at the ninth grade level in each of the last eight years the survey was conducted -- 1992, 1995, 1998, 2001, 2004, 2007, 2010, and 2013. If a school district did not participate in one of these years, none of its survey data between 1992 and 2013 was included in the analysis for the trend report.

Selecting only school districts that consistently participate over the years helps to ensure that differences seen from year to year are not merely the result of which school districts happened to participate in a given year. Fortunately, most school districts have participated in each year of the survey. Between 1992 and 2013, about 378,000 ninth-grade students from regular public schools completed surveys; nearly three-fourths of these students (73.5 percent) attended school in districts that participated all eight times between 1992 and 2013 and are thus included in the analysis for this trend report.

### Weighting the Data to Adjust for Student Participation Rates

For various reasons, ranging from illness and truancy to schedule conflicts and choosing not to participate, some students do not take the survey when their schools offer it. Student participation rates vary from one school district to another and from one survey year to another. A school district with a very high participation rate would therefore contribute more surveys to the dataset than one would expect from its share of the statewide student population.

A weighting procedure was used to adjust for differences in ninth-grade student participation. The weighting procedure was conducted independently for each school district and each survey year.

For each year, a school district's weight was created by first dividing the district's ninth-grade enrollment [E] by the total ninth-grade enrollment of all districts participating in the survey. This ratio was then multiplied by the ratio of total statewide ninth-grade surveys [S] to the number of ninth-grade surveys completed in the individual district.

This procedure weights each survey so that the school district contributes to the Minnesota Student Survey trend dataset in roughly the same proportion as the school district enrollment contributes to the total enrollment of all participating districts. Minimum and maximum weights were established to prevent distortions from unusual survey situations.

### Trend Report and Statewide Tables

Because of the exclusion of certain districts and the weighting procedure described above, figures published in the trend report may differ slightly from figures in the statewide tables for the same question. (The statewide tables are based on all regular school districts and are unweighted counts.) Usually these differences are very small. Each set of figures was prepared for a specific purpose. When focusing on one particular year, it is best to use the statewide

tables. When focusing on change over time, it is best to use the weighted trend results such as those published in this report.

### **Do Students Tell the Truth?**

One question sometimes raised about student surveys is whether students' responses are honest and accurate. Researchers use a variety of data analysis techniques to examine the likely accuracy of anonymous surveys and these were applied to the student survey as well. Surveys with numerous inconsistencies or improbable answers were excluded from data analysis. In 2013, for example, 1.6 percent of all ninth-grade surveys were removed because of a pattern of inconsistent and/or improbable answers. Another 0.5 percent of surveys were not used because the question on gender was not answered.

The majority of students exhibit patterns of responses to questions that are reasonable for a given question and consistent across similar questions. In addition, as results have demonstrated, percentages for many answers are consistent over time across the eight Minnesota Student Survey administrations studied for this report. Such similarities are likely to occur only if the survey responses reflect the actual perceptions of Minnesota's youth; it is extremely unlikely that these patterns could be replicated by chance over time. Furthermore, the survey findings are often consistent with findings in similar states and with national trend lines of increasing or decreasing behaviors.

This combination of individual response patterns, plausible relationships among answers, consistency over time within the state, and consistency with other research and with national studies all attest to the overall credibility of student responses.



## **Acknowledgments**

Administration of the Minnesota Student Survey is only possible with the help of many individuals and groups. We are thankful to all of the students who responded to the survey, as well as the school boards, administrators, Minnesota Student Survey coordinators and teachers who conducted the survey.

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### **Project Team**

#### ***Minnesota Department of Education***

Lisa Burton\*

Deb Loy

Sheila Oehrlein

#### ***Minnesota Department of Health***

Ann Kinney\*

Peter Rode\*

#### ***Minnesota Department of Human Services***

Phyllis Bengtson\*

Eunkyung Park\*

#### ***Minnesota Department of Public Safety***

Raeone Magnuson

Danette Buskovick\*

*\*Trend report writing team*